Software-Defined Networks

CENX is a new generation software and services company delivering Service Orchestration solutions that automate the entire lifecycle of advanced data services in software-defined networks. With CENX’s Cortx portfolio of Service Orchestration solutions, service providers can harness the power of big data analytics and cloud computing to orchestrate and assure inter-provider network services.

Synchronizing the Dynamic Operations of Software-Defined Networks

Today’s mobile, wireline, cable, and cloud service providers are all looking ways to design, implement, and manage their network infrastructures in order to:

• Drive revenue growth in an increasingly competitive marketplace
• Increase time-to-market and service agility
• Increase efficiency and lower operating expenses
• Decrease capital expenses
• Increase user quality of experience

Software-Defined Networking (SDN) and Network Functions Virtualization (NFV) are two emerging technologies that are accelerating the transformation of service provider network services. With SDN and NFV, service providers can provide differentiated, revenue-generating service offerings to their end customers while reducing operational costs and simplifying network management. A critical component of this next-generation network is Services Orchestration.

CENX’s Cortx Service Orchestrator enables the migration to SDN and NFV infrastructures by dramatically improving operations by automating the end-to-end lifecycle management of data services. Cortx Service Orchestrator empowers service providers with sophisticated tools to:

• Continually ingest, audit, and analyze data
• Logically visualize end-to-end services in multi-provider networks
• Automatically order and provision network services and enterprise connectivity
• Intelligently implement big data analytics for troubleshooting and SLA management

The Next-Generation Network

Service Orchestration
Automates the full lifecycle (design, order, provision, test, assure, and terminate) of inter-domain network services. It bridges legacy and emerging technologies in multi-vendor, inter-provider architectures using open standards, such as MEF and ETSI.

Software-Defined Networking
Separates control and forwarding functions, centralizes management, and programs network behavior using well-defined interfaces.

Network Functions Virtualization
Leverages IT virtualization technology to consolidate network equipment onto industry-standard servers and storage.
End-to-end Service Orchestration

CENX is committed to open standards, architectures, and multi-vendor environments and is a member of the ETSI Management and Orchestration working group and the MEF, which are at the forefront of developing functional and interface requirements for next-generation architectures.

Within the NFV architecture, Cortx Service Orchestrator performs the top-level service provisioning and assurance functions, interfacing with other standard components. Services are delivered in a Software-Defined Network with the aid of NFV management and orchestration components to instantiate the necessary virtual network functions (VNFs). SDN controllers are used to create paths connecting VNFs. Cortx Service Orchestrator continuously receives data from Operations Support Systems (OSS), test equipment, and network elements to perform real-time analytics and service assurance.

At the foundation of our Cortx portfolio of Service Orchestration solutions is a holistic abstract information model of the underlying network infrastructure, as opposed to simple details of physical or virtualized network elements (e.g. card, port, or virtual compute/storage). Since network data may be replicated in a number of legacy OSS platforms and is often inconsistent, our solution continuously ingests inputs from these systems, audits the data to check for integrity, and reconciles it to provide a single, accurate, and comprehensive view of the network. The Cortx Service Orchestrator uses this unified service information model as a basis for managing the full end-to-end service lifecycle, from service design through provision, test, assure, and disconnect.

Cortx Service Orchestrator is vendor neutral to easily integrate within networks that currently use multi-vendor technology or plan to do so in the future. It can also be rapidly adapted for inter-provider interfaces to implement end-to-end service ordering, consolidation of service state notifications, and other actions across multiple operators.

Powering the Service Provider Networks of Tomorrow

Cortx Service Orchestrator is fully supported in virtualized environments, leveraging distributed cloud computing for big data analytics. The platform is built on industry-leading technologies that power visionaries like Google, Amazon, and Facebook. This flexible architecture seamlessly scales to support large network operations. Open REST APIs to adjacent systems allow for easy interoperability, even as new SDN and NFV elements are introduced and configured.

To achieve sustainable profitability with high customer satisfaction, mobile, wireline, cable, and cloud service providers require efficient and effective network management and agile service fulfillment and assurance. CENX’s Cortx portfolio of Service Orchestration solutions empowers service providers with tools to rapidly deploy highly scalable, quality-assured services and enables the migration to SDN and NFV infrastructure to reduce opex/capex, increase flexibility and scalability, and simplify network operations.

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